**Grade 7 & 8 Science & Literacy Planning**

**Grade**: \_8\_\_ **Unit: \_\_\_\_D Water Systems**\_\_\_\_\_\_  **Habits of Mind**

-Personal water consumption: evaluate, plan of action to reduce... (*act locally)*

-Impact of human activity on sustainability of water systems... *(think*  *globally...)*

-Impact of scientific discovery/innovation on local/global water...

-Water testing

-Safety procedures

Inquiry, research skill

-States of water

-Distribution of...

-Watersheds (geog)

conn

\_\_\_•*assess the impact of human activities &* \_\_

\_\_\_*technologies on the sustainability of water*\_\_\_

\_\_\_*resources* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**BE** **(attitudes, beliefs, CGE)** STSE connection OVE #1

**KNOW (content)** OVE #3 **DO (skills)** OVE #2

\_\_•*demonstrate understanding of the* \_\_\_\_\_\_ \_•*investigate factors that affect* \_\_\_\_\_\_\_\_\_\_

\_\_*characteristics of the earth’s water systems*\_ \_*local water quality*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_*&* *the influence of water systems on a*\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_*specific region*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Big Ideas**: from science curriculum, connections to relationships, world issues, social justice& equity,

other subject areas

*How do our actions affect the natural world? – science curriculum 🡪unifying big idea across strands & unit in grades 7,8*

* *Connection to geography – watersheds... connections to gr. 7 geo – physical geo/ natural resources*

*“Think Globally, Act Locally” 🡪social justice & equity connections...virtues connections*

* *Connection to Literacy – waterwise unit online – sciencesource.ca – build background knowledge, social justice, differing perspectives, student inquiry into own areas of interest/concern*

**Inquiry Questions:** essential questions for this unit, student inquiry questions...

*How do our actions affect the natural world?*

*How does human activity affect our water systems?*

*What responsibility do we have to one another when we use water?*

*Can one person make a difference?*

**Opportunities for pre-assessment of knowledge and skills:**

*- Exploring unit starter... p.272-4: reading & discussion, quick lab, stse connection: assess background knowledge, ability to make connections, pt. of view, data anaylsis & graphing skills*

*-Getting started features for each chapter*

*-TLCP pre assessment question on pt.of view using text from “Waterwise,” science textbook or other source*

**Designing With the End in Mind**

**Assessment “of” Learning:** Unit task, culminating performance task integrated with other subject area(s)...

**Inquiry Based Learning**

**Unit task breakdown:** what are the skills necessary to complete this task, what subtasks are involved...

**Teacher Demos: Student Inquiries:**

**Graphic Organizers to consider using:**

**Integration Opportunities:** (Geography, History, Language, The Arts, Virtues, Religion/Family Life...) see literacy curriculum map

**Literacy Supports:** (Reading, Writing, Oral, Media) see literacy curriculum map

**Organization of Literacy Supports in Pearson’s**

***Investigating Science & Technology textbooks***

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| --- |
| **Chapter Grade 7 Grade 8** |
| **1 Previewing Text Features** |
| **2 Visualizing** |
| **3** *Letter to Editor Newspaper Article* |
| **4 Making Connections** |
| **5 Inferring** |
| **6** *Question & Answer Problem & Solution* |
| **7 Making Predictions** |
| **8 Monitoring Comprehension** |
| **9** *Sequential/Procedural Compare & Contrast* |
| **10 Determining Importance** |
| **11 Asking Questions** |
| **12** *Cause & Effect Description* |

**Other resources I could use/integrate**: (e.g. The 10 magazines...)

|  |  |
| --- | --- |
| The 10 Coolest Wonders of the Universe |  |
| The 10 Greatest Accidental Inventions |  |
| The 10 Most Amazing Bridges |  |
| The 10 Most Essential Elements | **x** |
| The 10 Most Revolutionary Inventions |  |
| The 10 Deadliest Plants |  |
| The 10 Greatest Threats to Earth | **x** |
| The 10 Most Essential Chemical Messengers |  |
| The 10 Most Extraordinary Medical Conditions |  |
| The 10 Most Revolting Parasites |  |
| The 10 Most Significant Medical Breakthroughs |  |
| The 10 Smartest Adaptations in Nature |  |

**Vocabulary specific to this unit:**

Ch 10 – salinity, water table, polar ice cap, ground water zone, wells, glaciers, ice sheet, aquifer, watershed, heat capacity, salt & fresh water, microclimate *(build concept map to show relationships amongst these words, look at prefix)*

Ch11 – chlorine, recharge, discharge contaminants, septic tank *(use context clues to define words, dual meanings of words 🡪 scientific meaning vs. Everyday meaning)*

Ch 12 – stewardship, sustainability, bias, bioremediation, desalination, impartial *(look at root words, prefixes, build word family, look at opposites – bias vs. Impartial)*

*Other Teaching possibilities:*

*Prefix “micro” (tiny, very small) – microwave, microscope, microbiology, microclimate, microbiologist, micro-organism (build web of related words & use knowledge of word part meanings to build definition)*

*Prefix “bio” (Greek, life) – bioremediation, biology, microbiology, biography*

*(build web of related words & use knowledge of word part meanings to build definition)*

*Root word – charge (various meanings...) – recharge, discharge, supercharged, turbocharged, overcharged – what do various prefixes do to the meaning of the word? Dual meaning of words 🡪scientific vs. everyday*

*Using context clues in text to help identify meaning of bolded terms – is word defined right in the sentence? Is an example given in surrounding text? Is definition given in parentheses with bolded term? Is a synonym of the term provided?*

**Assessment Opportunities: “for” and “as” Learning:**